(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau





(43) International Publication Date 21 April 2005 (21.04.2005)

PCT

(10) International Publication Number WO 2005/034718 A3

(51) International Patent Classification7:

A61M 1/10

(21) International Application Number:

PCT/IL2004/000950

(22) International Filing Date: 15 October 2004 (15.10.2004)

(25) Filing Language:

Engli

(26) Publication Language:

English

(30) Priority Data:

60/511,548 60/599,176 15 October 2003 (15.10.2003) US 4 August 2004 (04.08.2004) US

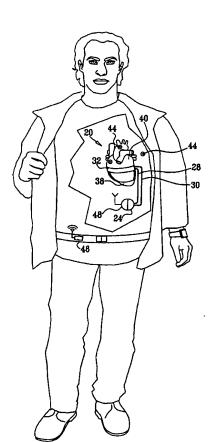
(71) Applicants and

(72) Inventors: BAR, Eli [IL/IL]; P.O. Box 273, 30875 Moshav Megadim (IL). ROUSSO, Benny [IL/IL]; 12 Henri Bergson Street, 75801 Rishon LeZion (IL). KO-RNOWSKI, Ran [IL/IL]; 2 Nachal Kidron Street, 47314 Ramat Hasharon (IL). (74) Agents: SANFORD T. COLB & CO. et al.; P.O. Box 2273, 76122 Rehovot (IL).

- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,

[Continued on next page]

(54) Title: AMPLIFICATION-BASED CARDIAC ASSIST DEVICE



(57) Abstract: Apparatus (20) is provided for compressing at least one ventricle of a heart (40). The apparatus includes a plurality of inflatable elements (64) and a pump (24) in fluid communication with the inflatable elements. At least one band (68) is in mechanical communication with the inflatable elements. A portion of the band is adapted to be placed around at least a portion of the heart in mechanical communication with the portion of the heart. The inflatable elements are arranged such that when the inflatable elements are inflated by the pump, the inflatable elements apply more force to the heart via shortening of the portion of the band than via expansion of the inflatable elements against the heart.

WO 2005/034718 A3



SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report: 15 September 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.